REMARKS

I. Status of Claims

Claims 1-8 are currently pending in this application, and claim 1 is amended by this response. This amendment does not introduce new matter, as support can be found in the specification at, for example, page 2, line 27. Claims 1 and 3 have been rejected under § 102(b); claim 1 and 6-8 have been rejected under § 102(e), and claims 2, 4 and 5 have been rejected under § 103(a). Applicants respectfully traverse each of these rejections.

II. Ohya et al.

The Examiner has rejected claims 1 and 3 under § 102(b) as anticipated by Ohya et al. The Examiner alleges that Ohya "teaches a process for depleting monovalent cations from water by subjecting to [reverse osmosis], and then subjecting the [reverse osmosis] retentate to electrodialysis, and recovering water depleted in monovalent cations . . . as in instant claim 1." Office Action at 2. Applicants respectfully disagree.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131. Moreover, in order to anticipate, a reference must also enabl what is taught. *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1374 (Fed. Cir. 2001) ("To anticipate, the reference must also enable one of skill in the art to make and use the claimed invention.") Applicants respectfully submit that Ohya does not disclose or enable each and every element in claims 1 and 3 and, therefore, does not anticipate the claims.

First of all, Ohya is merely a paper reference, disclosing a *possible future* technology, but no where disclosing that such technology existed at the time. For example, Ohya states, "*if* a key technology is developed . . . [t]hen it will be possible to make use of all valuable materials existing in sea water . . . ." Ohya Abstract. However, contrary to the hypothetical assertions of Ohya, the present invention notes that "such a process still cannot be carried out currently given that the reverse osmosis stage [of Ohya] is carried out at a very high pressure . . . and that membranes which withstand such a pressure still do not exist." Instant Specification at page 4, ll. 9-12.

Additionally, Ohya does not teach or suggest that the reverse osmotic step can be carried out in the absence of very high pressure, whereas the present invention teaches reverse osmosis under standard pressure conditions. *Id.* at page 2, l. 27. Claim 1 has been amended to more clearly recite this aspect of the invention. Moreover, Ohya does not teach or suggest a process wherein the electrodialysis is used in order to separate the divalent ions, as taught in the present invention; rather, Ohya uses electrodialysis to concentrate monovalent ions. And finally, Ohya no where teaches, as does the present invention, that the electrodialysis increases in selectivity as the ionic force increases. In light of the fact that Ohya is not enabling and not teach or suggest every element of the presently amended claims, Applicants respectfully request the withdrawal of the § 102(b) rejection.

The Examiner has also rejected claim 2 under § 103(a) as being obvious over Ohya in view of Conger. According to the Examiner, "Ohya teaches all the limitations of claim[ ] 2 as in claim 1 above, except directly adding the water depleted in monovalent cations to the permeate from th [reverse osmosis]. Conger . . .

teaches mixing [reverse osmosis] permeate water and electrodialysis product water." Office Action at 3. Thus, the Examiner concludes that "[i]t would be obvious to one of ordinary skill in the art at the time of the invention to add the water depleted in monovalent cations from the electrodialiser to the permeate of the [reverse osmosis] in the teaching of Ohya . . . similar to the teaching of Conger . . . for making potable water low in sodium." Office Action at 3-4.

In order for the Examiner to establish a *prima facie* case of obvious, he must show, among other things, that there is a reasonable expectation of success and that the prior art reference (or references when combined) teach or suggest all the claim limitations. M.P.E.P. § 2142.

Here, the Examiner has not met these stringent criteria. There can be no reasonable expectation of success because, as discussed above, Ohya is not an enabling reference. One of ordinary skill in the art would not expect that by combining Ohya's hypothetical assertions with Conger, a functional system (i.e., the present invention) would hence spring forth. Finally, neither Ohya nor Conger teach or suggest all of the claimed limitations, namely standard pressure reverse osmosis. Because the Examiner has failed to establish the *prima facie* obviousness of Ohya over Conger, reconsideration of this rejection is respectfully requested.

III. Abe et al.

The Examiner has furthermore rejected claims 1 and 6-8 under § 102(e) as being anticipated by Abe et al. The Examiner asserts that Abe teaches "a process for depleting monovalent cations from water comprising subjecting the water to reverse osmosis . . ., retentate of the [reverse osmosis] subjected to electrodialysis . . . and recovering depleted water in monovalent cations . . . as in instant claim 1." Office Action at 2-3. Again, Applicants respectfully traverse this rejection on the

grounds that Abe does not teach or suggest each and every element as claimed in claims 1 and 6-8.

First of all, Abe, like Ohya, does not teach or suggest that the electrodialysis increases in selectivity as the ionic force increases. Moreover, claim 1 of the present invention, as clarified by the amendment, is a process for depleting monovalent cations from water comprising subjecting said water to standard pressure rev rse osmosis wherein retentate from said reverse osmosis has a high ionic concentration than said water, subjecting said retentate to electrodialysis, and recovering from the electrodialysis water depleted in monovalent cations. Abe, however, does not teach or suggest such a process. Abe teaches an ultra-pure water producing syst m that "comprises the electrodialysis unit and the reverse osmosis until connected in series in this order." Col. 3, lines 48-50. In other words, the pure water of Abe is produced by a process that follows a reverse order, electrodialysis than reverse osmosis, from the claimed invention. The "7" of Figure 1 referred to by the Examiner as disclosure of retentate of the reverse osmosis subjected to electrodialysis is a concentrated waste discharging pipe from the reverse osmosis unit. Col. 4, lines 50-54. "Water depleted in monovalent cations" is not recovered from this pipe as required by the claimed invention. The only water recovered by Abe is the water subjected to electrodialysis followed by reverse osmosis, which is not the claimed process.

The Examiner has additionally rejected claims 4 and 5 under § 103(a) as being unpatentable over Abe in view of Conger. According to the Examiner, "Abe teaches all the limitations of the instant claims . . ., except the salt concentration of the feed (tap) water. Conger . . . teaches the concentrations of feed (slightly brackish) waters below 3 g/L pp." Office Action at 4. As discussed above, Abe does not teach or suggest every element of the present claims, including "recovering

water depleted in monovalent cations" from a process in the order r quired by th present claims. Thus Abe and Conger, when combined, cannot teach every element of the present claims, as is required for making out a *prima facie* case of obviousness. Because the Examiner has failed to establish a *prima facie* case, the withdrawal of this rejection is earnestly solicited.

IV. Conclusion

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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